(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 March 2001 (29.03.2001)

PCT

(10) International Publication Number
WO 01/22766 A1

(51) International Patent Classification[7]: H04Q 7/38

(21) International Application Number: PCT/SE00/01656

(22) International Filing Date: 29 August 2000 (29.08.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/399,918 21 September 1999 (21.09.1999) US

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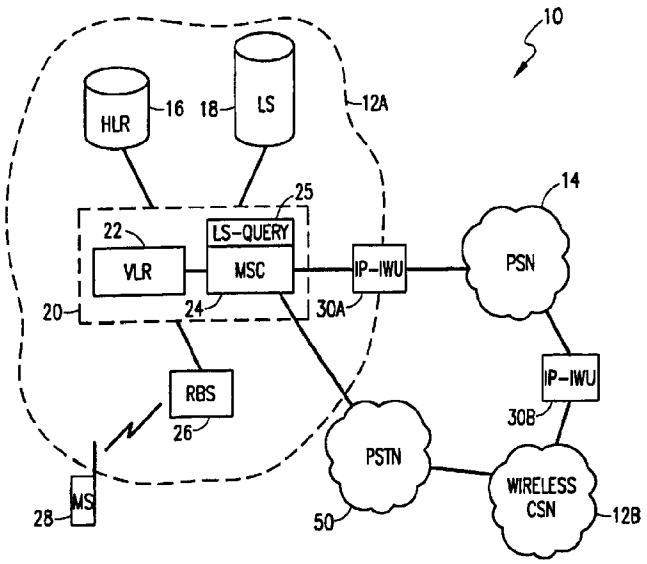
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *With international search report.*
— *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM AND METHOD FOR CALL ROUTING IN AN INTEGRATED TELECOMMUNICATIONS NETWORK HAVING A PACKET-SWITCHED NETWORK PORTION AND A CIRCUIT-SWITCHED NETWORK PORTION



(57) Abstract: A system and method for IP-based call routing in an integrated telecommunications network having a packet-switched network portion (e.g., a Voice-over-Internet Protocol (VoIP) network portion (14) and one or more circuit-switched network (CSN) portions (12) such as a PSTN (50) or a radio telephony network. A mobile Switching Center (MSC (24)) serving one or more mobile subscribers (28) is provided with an Internet Protocol (IP)-Interworking Unit interface (30) towards the VoIP network portion. The radio telephony network also includes a Location Server (LS(18)) containing mapping information between routing numbers (e.g., Temporary Location Directory Numbers or TLDNs), called party numbers (B-numbers) and IP addresses of entities to which a call can be routed over an IP trunk from the MSC. A querying mechanism is provided in the MSC for interrogating the LS based upon a routing number, a called party number, or both, provided to the MSC. The MSC obtains an IP address from the LS which is used for effectuating the IP trunk. A plurality of Bearer Independent Call Control (BICC) messages and a plurality of Integrated Services Digital Network (ISDN) User Part (ISUP) messages are transmitted among the various nodes of the integrated telecommunications network, e.g., one or more MSCs with the IP interface, a Local Exchange of the PSTN, etc. for establishing the IP trunk. Where an IP trunk is not available, a circuit-switched path (e.g., a Synchronous Transfer Mode (STM) trunk), is utilized in the call path. The IP trunk is implemented using Real-time Transfer Protocol (RTP) and Session Description Protocol (SDP) to convey the voice payload associated with the call.

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